

PREHISTORY OF THE BASALT PLAINS

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A century after Major Mitchell traversed the basalt plains, they carried over 500 sheep to the square mile. In 1836, the natural resources possibly supported one aboriginal to every 5 square miles. Contemporary estimates (Smyth 1878, 1: 31-38) populated Victoria with between 3,000 and 7,500 aborigines, an average density ranging from 12 to 30 square miles for each native. (The first official census was not taken until 1877, when there were 774 Victorian full-bloods, of whom 170 lived in the entire W. District.) As the plains constitute a tenth of the State, on an arithmetical basis this allows a population of from 300 to 750. Yet the region was amply stocked with game, varied marine and lake foods, and permanent water, making it a most favourable area for hunting-fishing-gathering exploitation. By what factor should the estimate be increased on this account?

In coastal and riverine regions of N. and NW. Australia, presumably comparable in their food potential, informed estimates (Meggitt 1962: 32) of population density range between 6.5 and 9 square miles a head. Therefore, 5 square miles for each W. District aboriginal seems not unreasonable, and it accords with vital statistics for hunting societies elsewhere (Krzywicki 1934). A total population of 1,800, therefore, is probably a more reliable figure than extrapolation from estimates made for specific areas by early settlers (Bride 1898: 33, 42, 114, 140) or by Dawson (1881: 3), who made a devious calculation that 2,500 aborigines from the hinterland between Colac and the Wannon periodically assembled near Mt Rouse.

The conversion of tribal territory to sheep-runs was rapid and decisive (Kiddle 1961). Unfortunately, Dawson (1881) was the only European to attempt a comprehensive record of the W. District aborigines and, although sympathetic, he lacked critical understanding. It is significant that, when in the 1880s, A. W. Howitt (1904: 69) commenced his diligent collection of data on tribal organization, no aboriginal informant seems to have been available to him, and he was almost entirely dependent upon Dawson for his knowledge of the W. District. For this symposium it is more appropriate to examine problems of prehistory and past and future field research, than to summarize the history of race relations or the social structure and material possessions of the aborigines. The basic information on such subjects is contained in Dawson, Brough Smyth, Kiddle, and Foxcroft (1941).

In the absence of systematic archaeological excavations, no definitive comment concerning the cultural sequence is possible. To judge from the analysis of stone implements collected on surface sites, which assemblages represent mixed industries of different ages, the shapes and technology of the W. District artefacts resembled those current elsewhere in Victoria. Microlithic implements are particularly common, especially geometric and backed blade (Bondi point) forms. Mitchell (1949) has described the main areas, and the numbers he collected are impressive—e.g. at sites adjacent to Inverleigh, Glenthompson, L. Bolac, L. Burrumbuck, and Willaura, he found 1,542 geometrics and 411 Bondi points. The edge-ground axe was widely distributed and one type meriting detailed investigation is the hammer-dressed, grooved variety which appears characteristic of the W. District. In common with the rest of the State, two basic prehistoric implement types are unrepresented,

although they are distributed widely throughout the rest of the continent. These are the pirri point and tula adze, which appear inexplicably to observe the State boundaries in their occurrence.

Using excavations on the Lower Murray R. and Cape Otway (Mulvaney 1962) as the yardstick, it appears that aboriginal stone craftsmanship was more highly skilled and diversified 2,000 to 5,000 years ago than at the time of European settlement. By 1835 the production of most specialized implement types had ceased. This is a reminder that, although the aborigines are known as a stone age people, stone utilization played a relatively minor role in their life. The environment furnished them with a variety of plant and animal raw materials, whose archaeological survival is uncommon.

When Europeans occupied the plains, they found aboriginal relics which were more substantial than those in most areas of Australia, and which indicated the environmental adaptation of their society. The aborigines on the Stony Rises utilized basalt boulders to construct circular hut walls, possibly roofed with brushwood. Most of these structures had been demolished by 1875, by settlers seeking building stone for fences (Smyth 1878, 11: 235). No plan of these huts appears to have been made by contemporaries, but field survey might recover traces of them. One extensive series of small stone alignments, presumably a ceremonial ground, has been located and surveyed on an island in L. Wongan, near Skipton (Smyth *ibid.*, Casey 1938). This site should be scheduled as a national monument.

Field survey may locate aboriginal fish and eel traps constructed of stone which were functioning at the time of European settlement (Bride 1898: 40, 219; Dawson 1881: 94). Kenyon (1912) described such a trap near L. Condah which requires further investigation. The most complex and unique aboriginal construction was a series of earth ditches seen in 1841 by Robinson, who was crossing swampy country somewhere between Mt Sturgeon and Mt William (Kenyon 1928: 156). 'One continuous treble line measured 500 yards in length, 2 feet in width, and from 18 inches to 2 feet in depth. These treble dikes led to extensive ramified watercourses. The whole covered an area of at least 10 acres. . .'

Apparently the most obvious evidence of aboriginal occupation was provided by inland middens known as 'ovens' or 'mirnyongs'. Near Mortlake there was a group of 5 of them, up to 100 ft in diameter and 8 ft thick (Smyth 1878, 11: 233).

There were at least 40 mounds in the area near Meredith (McPherson 1884: 59); Dawson (1881: 103), familiar with the Camperdown area, commented on 'native mounds, so common all over the country'. These observers were too intrigued to leave the mounds without investigation and many of them were 'dug'; in any case, numbers had been destroyed by 1876 for the fertile soil which they contained (Smyth 1878, 11: 234). 'As many as 5 or 6 skeletons have been found in one mound', one of them noted (Smyth, *ibid.*). McPherson's exertions at Mortlake portray their excavation technique (1884: 55).

'The first 6 or 8 inches were nearly as hard as brick, but under this dome the ashes were quite loose and easily tossed about. After prolonged work there was no sign of human remains. Another portion of the mound was pierced and searched, but still without success. Returning to the portion first tried, the spade was driven into the open side, when several bones fell down along with the loose dry ashes.' Dawson also dug enthusiastically; 'in every large mound, and in some of the smaller ones, human skeletons were found'. He did recognize, however, that the mounds were internally stratified and were therefore gradual accumulations due to human occupation (1881: 104).

Fossicking was not limited to 'ovens'. It extended to coastal middens and other sites where post-European erosion exposed 'blows'; sites where the surface covering

was removed exposing stone or bone artefacts. As early as 1857, Bonwick (1858: 93) visited Bridgewater caves and found shells and stone implements. 'Stirring about the soil', he uncovered some animal bones. And so the plundering of the Bridgewater deposits began. Exactly a century later, a Melbourne University expedition visited the site, hoping to excavate it; this was a vain hope, for it had been churned over (Mulvaney 1957: 43). In this same report the writer described other frustrations for field workers in the W. District. Throughout this century the area has been the chief source for cabinet collections. Unfortunately, many collectors failed to record the precise locality from which their finds came, and others omitted to label them at all. Even material lodged in the National Museum is frequently catalogued imprecisely, so that the distribution of certain implement types cannot be plotted. Collectors were also subjective; they sought special implement types or finely worked specimens, and left the waste flakes or crude implements behind. The result is that existing collections cannot provide a comprehensive record of aboriginal culture, nor do they permit adequate statistical assessment of stone working techniques. What has been left lying on the ground is equally misleading as a guide to aboriginal material possessions in an area.

If any sites survived the 'grave-digging' phase, subsequent ploughing has possibly levelled them. However, they cannot be overlooked as valuable archaeological and carbon dating prospects. Some sites might be located by aerial photography. As long ago as 1869, McPherson (1884: 49) observed from a train window near Meredith that 'owing to the drought . . . the green mantle of grass had disappeared, leaving the black patches of the oven-mounds very easily distinguishable from the bare surface of the soil'. Elsewhere, he commented, crops grew green and tall on the fertile ashy mounds. Features such as these should still be recoverable by photography because, in Britain, ploughed out barrows produce crop marks even after the passage of 4,000 years.

McBryde (1962) and Webster (1962) have demonstrated the practicability of archaeological aerial photography in Australia. They provided a new perspective for the investigation of aboriginal stone quarries in N.S.W., particularly through the use of infra-red photography. Similar photographs of Victorian axe stone sources would be helpful. In regard to such stone quarries, scientists could contribute in another way towards an objective assessment of aboriginal trade and culture contacts.

A century ago, Blandowski (1855: 7) and Krefft (1865: 366) both claimed that edge ground axes used in the Lower Darling R. area had been quarried in C. Victoria. Since that time, Mt William, near Lancefield, has become notorious for its alleged far-flung contacts, the most distant of which is the Northern Territory (Gross 1955: 38). While Mt William has attracted some specialist attention, stone quarries in the W. District have been neglected. The most important sources were the epidiorite at Ceres and Dog Rocks, Batesford, in the Barrabool Hills, and diabase outcrops near Chatsworth, Mt Stavelly, and Juluka, 15 miles from Ararat (Mitchell 1961). Tindale (1957: 31) has claimed that axes from Chatsworth were traded into South Australia as far W. as the Yorke Peninsula.

The validity of these distributional claims cannot be established merely by handling the specimens. The systematic petrological identification of sources of stone is essential for objective study. British archaeologists were faced with the same confusion before the last war, and a sub-committee of archaeologists, museum officials, and petrologists was appointed. Some hundreds of specimens were examined and the investigation revealed an unexpected complexity of culture contact in prehistoric Britain and the continent (Clark 1952: 248). The Royal Society could provide a valuable service by sponsoring a similar Australian committee.

Dawson (1881: 78) sketched the mechanics of the transfer of such raw materials

in tribal society, although the essentially ceremonial and obligatory nature of the transactions escaped him. He described inter-tribal gatherings at Mt Noorat, although Mt William stone quarry performed a similar function in its area (Howitt 1904). A petrologist would have been an interested observer at Mt Noorat.

'At the periodical great meetings trading is carried on by the exchange of articles peculiar to distant parts of the country. A favourite place of meeting for the purpose of barter is a hill called Noorat, near Terang. In that locality the forest kangaroos are plentiful, and the skins of the young ones found there are considered superior to all others for making rugs. The aborigines from the Geelong district bring the best stones for making axes, and a kind of wattle gum celebrated for its adhesiveness. This Geelong gum is so useful in fixing the handles of stone axes and the splinters of flint in spears, and for cementing the joints of bark buckets, that it is carried in large lumps all over the Western District. Greenstone for axes is obtained also from a quarry on Spring Creek, near Goodwood; and sandstone for grinding them is got from the salt creek near Lake Boloke. Obsidian or volcanic glass, for scraping and polishing weapons, is found near Dunkeld. The Wimmera country supplies the mallee saplings, found in the mallee scrub, for making spears. The Cape Otway forest supplies the wood for the bundit spears, and the grass-tree stalk for forming the butt piece of the light spear, and for producing fire; also a red clay, found on the sea coast, which is used as a paint, being first burned and then mixed with water, and lain on with a brush formed of the cone of the banksia while in flower by cutting off its long stamens and pistils. Marine shells from the mouth of the Hopkins River, and freshwater mussel shells, are also articles of exchange.'

To unravel the antiquity and cultural succession of human occupation, close collaboration between archaeologists and scientists is essential. The extensive coastal dunes and former lake margins offer opportunities for correlating human occupation with changes on the face of the plains. Gill (1953, 1955a) has demonstrated that valuable evidence concerning the past few centuries can be obtained from coastal middens. Systematic work on these eroding dunes is a matter of urgency, for nature and the avid collector have destroyed considerable information. To realize the extent of lost opportunities, it is only necessary to mention the richness of the Koroit Beach middens at the time of the first descent by collectors (Mitchell 1958, Dawson 1881: 19).

In New Zealand, it has been possible to correlate prehistoric occupation with periods of vulcanism, and this aspect cannot be overlooked here. Indeed, Keble (1947) and Gill (1953) have presumptive evidence that, at Bushfield, a grooved axe was buried beneath 9 ft of Tower Hill tuff. The initial discovery was accidental, but there seems to be no reason for doubting the authenticity of the discovery. This eruption was possibly more recent than the latest ash shower from Mt Gambier, and there are fully authenticated instances of the discovery of aboriginal artefacts sealed beneath this deposit.

The age of these finds is around 5,000 years, and radiocarbon 14 has shown that man lived in South Australia at least 4,000 years before that time. The relative antiquity of the Bushfield specimen is interesting because no hafted **grooved** axe was ever collected from living aborigines, although surface specimens are distributed widely over the plains and none has been recovered through archaeological excavation. These artefacts are more massive than the common edge ground axe and it may be significant that many are deeply patinated or decomposed and a number has been unearthed at some depth (Archibald 1894, Gill 1953: 73).

Dawson (1881: 102) is cited frequently in support of the thesis that as aboriginal legends include volcanic eruptions, the aborigines must have been present at such

times. No doubt they were. But this does not justify the use of this material as evidence. Dawson is virtually the only source for this belief and what he does recount might be European rationalization. Gregory (1904: 134) showed a healthy scepticism, and so did the squatter in 1854, who warned (Bride 1898: 184) that aborigines 'will at any time admit or say anything which they think will please their interlocutors. . . if leading questions are put to them, as is usually done by enthusiastic enquirers, who are following up their own ideas, they. . . may be made to say anything'.

Did man occupy the plains during Pleistocene times? While some claims have been fanciful, there is some intriguing evidence which merits further investigation. The Buninyong bone cannot be accepted. It neither looks nor reads like an authentic aboriginal tool (Gregory 1904, Mahony 1943). An evolutionary minded public hailed the discovery at Warrnambool in 1890 of imprints in dune limestone of alleged human feet and buttocks. The vogue for 'Pliocene' man coincided with the announcement of *Pithecanthropus* in Java. It cannot be denied that animal and bird imprints do occur in the soft rock, but it requires subjective rather than objective qualities to convert the celebrated marks into humans. While the literature is voluminous, the consensus of opinion (Gill 1953: 73) regards the evidence as dubious for, as Gregory (1904: 132) observed, if these were human feet, they 'wore a modern type of boot'. Perhaps the last word lies with the enthusiastic museum curator (Archibald 1894). The museum display card pronounced that the impressions were those of a man and woman sitting on some prehistoric river bank, and this Archibald remarked, was 'a consideration which, I regret to say, seems to have great weight with certain frivolous young visitors to our Museum, who profess to derive comfort from the reflection that "that sort of thing" has the sanction of remote antiquity'.

The evidence from Pejark Marsh is more worthy of investigation. The evidence has been exhaustively treated by Keble (1947: 47) and Gill (1953: 62). It is evident that bones of extinct giant mammals are present at certain levels in the marsh; this fact, together with the unique possibilities for pollen analysis, gives the site some priority for future research. The doubt concerns aboriginal involvement. In 1908, an aboriginal millstone or anvil stone was found. Subsequent excavations (Spencer and Walcott 1911, Keble 1947: 49) have failed to find additional traces of aborigines. Apart from a depression worn on one surface, the stone is featureless and cannot be assigned to any phase or culture upon typological considerations. It seems probable that the stone came from beneath the tuff and, on the word of the finder, it was associated with the fauna. Unfortunately, he washed away the 'yellow clay' adhering to it, otherwise pollen determinations might have assisted. Here then is the nub of the problem. If the finds are associated, it establishes the presence of Pleistocene man; but no matter how far subsequent discussion proceeds, it depends upon accepting the reliability of the finder's report. For such a crucial issue this is inadequate.

L. Colongulac presents similar problems. Bones of extinct mammalian fauna were collected on eroded surfaces by the lake around 1847. Gill (1955b) has presumptive evidence for dating these remains to $13,725 \pm 350$ years ago. Mixed with these bones were the remains of dingo (Gill 1953: 57). Subsequent fluorine analysis has demonstrated that the dingo bones are not as old as the fauna with which they were associated (Gill pers. comm.). Many of the mammalian bones have been considerably worn or chewed, but by what process cannot be ascertained. However, one of them is exceptional. It is the distal portion of the metatarsal of an extinct marsupial, which has a deep wedge-shaped cut. Expert opinion (Spencer and Walcott

1911: 116, Gill 1953: 58) rejects the possibility of a post-European cut and, in this instance, animal teeth seem precluded as the agent. Gill is convinced that aboriginal activity is the only alternative and, while this may be so, the question remains inconclusive. It is to be hoped that future fieldwork at L. Colangulac will produce more positive evidence for, together with that from Pejark and Keilor, there are tantalizing hints concerning man's presence in Pleistocene Victoria. It is appropriate to conclude with Gregory's admonition (1904: 125).

'In dealing with the fossil traces of man, the evidence of a single specimen, which was not collected *in situ* by a collector of known trustworthiness, must always be received with caution. The chance of genuine mistake and of practical joke must not be forgotten. The literature of the antiquity of man contains many warnings against founding important conclusions upon single specimens.'

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